SCHOOL OF PROFESSIONAL STUDIES

BACHELOR OF INFORMATION COMMUNICATION TECHNOLOGY

UNIT CODE: BCT 215 - INTRODUCTION TO NETWORKING

AUGUST-DECEMBER, 2018 END SEMESTER EXAM – 2 HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO

1. **SECTION A.**

a. Define the following terms in networking:

i. A protocol (2 marks).

ii. HTTP (2 marks).

iii. Peer to Peer Model (2 marks).

iv. DNS (2 marks).

b. Define the term Network Topology and describe the various types of topologies (5marks)

c. Describe the following types of Networks, LAN, MAN, WAN and cite the unique difference of each over the other. (6 marks)

d. Define the term attenuation? (2 marks)

e. What is data encapsulation and data de-encapsulation? (2 marks)

f. Which registry key is used in normal mode of router and what registry key is used to recover password? (4 marks)

g. Define STP. Why is it used? (3 marks)

2. **SECTION B**

a. Discuss the OSI Reference Model highlining the functions and protocol data unit of each layer. (14 marks)

b. What is frame relay? (1 mark)

3. SECTION C

a. A medium-sized business is researching available options for connecting to the Internet. The company is looking for a high-speed option with dedicated, symmetric access. The company has the following options, DSL, dialup, satellite, leased line and cable modem. Which connection type should the company choose and WHY? (5 marks)

b. Discuss the Peer to Peer Network and give its advantages and disadvantages(6 marks)

c. Describe the difference between the client-server and peer-to-peer network models? (4 marks)

4. SECTION D

a. Describe a MAC address and 2 of its functions? (3 marks)

b. What are the major differences between IPv4 and IPv6 addressing?(2 marks)

c. Discuss the 5 functions of routers? (10marks)

5. SECTION E

a. Outline the purpose of cables being shielded and having twisted pairs? (3 marks)

b. Identify the equivalent layer or layers of the TCP/IP Application layer in terms of OSI reference model and state the functions of each layer. (8 marks)

c. Scott Christian University ICT Team has chosen to implement the fiber optic transmission as opposed to any other network transmission mode. What makes fiber optic transmission better than other transmission modes? (4 marks)